

C. AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

4/15
1. (currently amended) A biocompatible radiation shield for use with a radiation applicator system for a radiation source, said radiation applicator system including an applicator head defining a surface having a predefined shape and surface contour, said radiation shield comprising:

a substantially thin, biocompatible material, wherein said biocompatible material is flexible enough ~~adapted~~ to conform to the shape of at least a portion of the surface contour of said applicator head.

2. (original) A biocompatible radiation shield according to claim 1 wherein said biocompatible material includes at least one radiation blocking or absorbing material chosen from the group including tungsten, gold, platinum, rhodium, iridium, tantalum and barium oxide.

3. (original) A biocompatible radiation shield according to claim 1 wherein said biocompatible material includes at least one material chosen from the group including urethane, silicone polyamides, and polystyrenes.

4. (currently amended) A biocompatible radiation shield according to claim 1 wherein at least a portion of said biocompatible material is characterized by an adhesiveness sufficient ~~adapted to allow the radiation shield to be coupled to~~ said applicator head.

5. (original) A biocompatible radiation shield according to claim 1, wherein the

biocompatible radiation shield is formed from a tungsten filled urethane material including approximately 60 to 90 percent tungsten by weight.

6. (original) A biocompatible radiation shield according to claim 5, wherein the biocompatible radiation shield is formed from a tungsten filled urethane material including approximately 80 percent tungsten by weight.

7. (currently amended) A radiation applicator system for use with a radiation source for facilitating the application of a dose of radiation to a volume, said radiation applicator system comprising:

A) an applicator, substantially encasing a radiating probe of said radiation source, said applicator including:

- i) a shank having a ~~proximate~~ proximal end and a distal end; and
- ii) a head secured to said shank distal end and defining a surface for engaging

~~said area~~ volume to receive said dose of radiation; and

B) an adapter, including:

- i) a first coupler suited for mated engagement with said shank ~~proximate~~ proximal end; and
 - ii) a second coupler suited for mated engagement with said radiation source;
- and

C) a biocompatible radiation shield coupled to at least a portion of said head.

8. (original) A radiation applicator system according to claim 7 wherein:

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said radiation source includes a housing having an elongated probe extending from said housing and said probe is adapted for producing predefined dose profiles of radiation at a distal end of said probe; and

said head is adapted for receiving said distal end of said probe whereby radiation produced by said probe can be applied to an area adjacent said surface of said head.

9. (original) A radiation applicator system according to claim 7 wherein said applicator head defines a substantially spherical surface and said biocompatible radiation shield is formed in the shape of at least a portion of said substantially spherical surface.

10. (original) A radiation applicator system according to claim 7 wherein said applicator head defines a substantially ellipsoidal surface and said biocompatible radiation shield is formed in the shape of at least a portion of said substantially ellipsoidal surface.

11. (original) A radiation applicator system according to claim 7 wherein said applicator head defines a substantially cylindrical surface and said biocompatible radiation shield is formed in the shape of at least a portion of said substantially cylindrical surface.

12. (original) A radiation applicator system according to claim 7 further comprising a low energy filter, coupled to said distal end of the radiation applicator, for attenuating low energy radiation emitted from said probe.

13. (original) A radiation applicator system according to claim 7 wherein said shank includes a fastening element adapted for fastening said applicator to said radiation source at first predefined position with respect to said radiation source.

14. (original) A radiation applicator system according to claim 7 wherein the biocompatible radiation shield is formed from a tungsten filled urethane material including approximately 60 to 90 percent tungsten by weight.

15. (currently amended) A kit for applying radiation to a volume, said kit comprising:
a radiation source adapted for producing a predefined radiation dose profile;
a plurality of applicator systems and a corresponding plurality of biocompatible radiation shields, each of said applicator systems including:

A) an applicator, substantially encasing a radiating probe of said radiation source, said applicator including:

- i) a shank having a ~~proximate~~ proximal end and a distal end; and
- ii) a head secured to said shank distal end and defining a surface for engaging said volume area to receive said dose of radiation; and

B) an adapter, including:

- i) a first coupler suited for mated engagement with said shank ~~proximate~~ proximal end; and
 - ii) a second coupler suited for mated engagement with said radiation source;
- and

C) a biocompatible radiation shield coupled to at least a portion of said head.

16. (original) A kit according to claim 15 wherein the applicator head of at least one of the plurality of applicator systems is different in size or shape than the applicator head of at least one of the other applicator systems from the plurality of applicator systems.

17. (original) A kit according to claim 15 wherein at least one of the plurality of radiation shields is different in size or shape than at least one of the other radiation shields.

18. (original) A kit according to claim 15 wherein the applicator head of each of the plurality of applicator systems is different in size or shape than the applicator head of each of the other applicator systems.

19. (original) A kit according to claim 15 wherein each of the plurality of radiation shields is different in size or shape than the other radiation shields.

20. (original) A kit according to claim 15 wherein at least one of said biocompatible radiation shields includes at least one radiation blocking or absorbing material chosen from group including tungsten, gold, platinum, rhodium, iridium, tantalum, and barium